

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
PATENT APPLICATION

5 Entitled : device for injecting cooling air into a
 turbine rotor

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ABSTRACT OF THE DISCLOSURE

15 A device for injecting cooling air into a turbo-
machine turbine rotor, the device comprising a plurality
of injectors distributed regularly around a longitudinal
axis of the turbomachine and mounted between an inner
shroud and an outer shroud, each injector of aerodynamic
profile comprising, between a leading edge and a trailing
20 edge, a suction side wall and a pressure side wall, the
cooling air passing through the injectors being ejected
towards through orifices in the turbine rotor via a flow
section forming an aerodynamic throat between the
trailing edge of one injector and the suction side wall
25 of an immediately adjacent injector, wherein, in order to
modify the section of the aerodynamic throat as a
function of the temperature of the cooling air passing
through the injectors, each injector comprises a
bimetallic structure with a first metal material forming
30 a major portion of the structure of the injector and
having a first coefficient of thermal expansion, and a
second metal material forming a complementary portion of
the structure in the vicinity of the suction side wall
meeting the trailing edge of the injector, and having a
35 second coefficient of thermal expansion that is smaller
than the first.